

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V (DRAFT) NO. V-04-024

TENNESSEE VALLEY AUTHORITY

DRAKESBORO KY.

AUGUST 16, 2004

MATT KING, REVIEWER

PLANT I.D. # 21-177-00006

APPLICATION LOG # 50068

SOURCE DESCRIPTION:

Tennessee Valley Authority operates three coal fired electric generating boilers. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash and gypsum disposal processes.

COMMENTS:

All three electric generating units are equipped with selective catalytic reduction for NO_x control. To control particulate matter and SO₂ emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers, and one is under construction on Unit 3.

Emission Factors were obtained primarily from AP-42 and stack test data.

The large boiler units are regulated by 401 KAR 61:015, Existing boilers. The newer coal handling is regulated by 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants. 40 CFR 60 Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, is applicable to the newer limestone handling at the facility. 401 KAR 51:010 and 61:020, New and Existing processes, and 401 KAR 63:010, Fugitive emissions, covers the remaining units.

The three electric generating units have redistributed SO₂ limits. They are source specific, and do not match those found in 401 KAR 61:015. Units # 1 and 2 also have increased opacity limits. 401 KAR 61:015 sets them at 20%. TVA followed the procedure found in 401 KAR 50:055 to increase these allowables while meeting the particulate matter emission limits.

EMISSION AND OPERATING CAPS DESCRIPTION:

The coal washing plant was built prior to the current PSD regulation. At the time the coal washing plant was built, the existing PSD requirements were met by the source accepting a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. The limestone handling particulate matter emissions are limited to 25 tn/yr in order to preclude 51:017, Prevention of Significant Deterioration.

PERIODIC MONITORING:

Due to moisture from the wet scrubbers and merging of multiple plumes, Method 9 is a questionable monitoring tool for opacity. Agreed Order AI-89-41D signed in 1989 by TVA and the Kentucky Division for Air Quality (DAQ) calls for an alternative monitoring plan for opacity compliance demonstration, but no agreement on an alternative has been reached. The permit continues the quarterly particulate matter stack tests on Units 1 and 2, and incorporates a condition that requires an alternative plan to be submitted to DAQ within 90 days of proposed permit issuance.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.